

What is Claimed is:

1. In a method of producing steel using a steel-making vessel, where lime is used as a flux material that is blown, from above, into a steel-making bath along with an oxygen stream, the improvement comprising:

providing a flux material composition of calcium oxide having a particle size of less than 250 mesh, which contains a flow aid material that is an organic siloxane, in an amount of less than 0.5 percent by weight of the calcium oxide, and injecting the flux material composition through a lance along with oxygen into the steel-making bath contained in the vessel.

2. The method according to Claim 1 wherein the lime is a high calcium lime.

3. The method according to Claim 1 wherein the lime is a dolomitic lime.

4. The method according to Claim 1 wherein the flow aid material is polydimethylsiloxane.

5. The method according to Claim 1 wherein the flow aid material is polymethylhydrosiloxane.